

ABSTRACT OF THE DISCLOSURE

Methods and apparatus for planarizing a substrate surface are provided. In one aspect, a method is provided for planarizing a substrate surface including polishing a first conductive material to a barrier layer material, depositing a second conductive material on the first conductive material by an electrochemical deposition technique, and polishing the second conductive material and the barrier layer material to a dielectric layer. In another aspect, a processing system is provided for forming a planarized layer on a substrate, the processing system including a computer based controller configured to cause the system to polish a first conductive material to a barrier layer material, deposit a second conductive material on the first conductive material by an electrochemical deposition technique, and polish the second conductive material and the barrier layer material to a dielectric layer.